

REMARKS

This is in response to the Office Action mailed April 20, 2004. In the Office Action, claims 1-3 and 5-13 were rejected. With this response, claim 1 is amended; claims 10 and 11 are cancelled; and the remaining claims are unchanged in the application.

Applicant respectfully notes that a Supplemental Information Disclosure Statement was filed on November 10, 2003 in the above-identified patent application. To date, Applicant has not received a copy of an initialed form PTO 1449 indicating consideration of these references. Accordingly, Applicant respectfully requests a copy of such initialed form PTO 1449 in order to ensure that those references have, in fact, been considered.

Section Two of the Office Action indicated that claims 1 and 10, among others, were rejected under 35 U.S.C. §103(a) as being unpatentable over Itoh (U.S. Patent 4,401,763) in view of Parth (U.S. Patent 3,784,359) and Staffin et al. (U.S. Patent 3,607,071). As an initial matter, Applicant respectfully notes that independent claim 1 has been amended to essentially recite the subject matter that was previously recited in dependent claim 10. However, dependent claim 10 was subject to the same rejection in Section Two of the Office Action.

Amended independent claim 1 recites, among other things, a continuous on-line total carbon analyzer for water applications. The analyzer includes a sample inlet to receive a continuous stream of sample specimen, a combustion furnace coupled to the sample stream flow controller that oxidizes the sample stream passing therethrough, and a detector that provides an output indicative of a relative amount of carbon dioxide flowing therethrough, which output is indicative of total carbon in the specimen stream. The Office Action conceded on page 3 that neither Itoh nor Parth teach a "continuous" carbon

measurement. The Office Action then simply turns to teachings of Staffin and asserts, "It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Itoh to include a continuous carbon measurement as taught by Staffin et al." The Office Action further asserted that, "By adding this feature the user would be able to measure carbon content without any interruptions." Respectfully, Applicant submits that the techniques and apparatus set forth by Staffin simply cannot be incorporated into the device of Itoh. Applicant respectfully notes that Itoh includes, "A separation column to separate into component gases (nitrogen gas, carbon dioxide gas and acetylene gas), and these separated gases are sent to a gas analyzer for detection and determination." The accumulation of these multiple gases on a separation column, and subsequent detection is done in a sequential fashion. Referring to FIG. 3 of Itoh, nitrogen is determined at approximately one minute of a testing cycle and carbon dioxide is subsequently determined at approximately 2 minutes. Accordingly, the analysis performed by the device in Itoh does not continuously register carbon dioxide.

To assert that the teachings of Staffin could simply be substituted where appropriate to provide continuous analysis, is to simply ignore substantial differences in these two references.

Accordingly, Applicant respectfully submits that the combination of Staffin with either Itoh or Parth is improper. Further, Applicant respectfully notes that even if the teachings of Staffin could be combined with that of Itoh and Parth, the combined teachings would provide an indication continuous total organic carbon as set forth in the title of Staffin. In contrast, both of Applicant's independent claims now recite continuous on-line total carbon analysis. Thus, Applicant respectfully submits that amended independent claim 1 is allowable over Itoh, Parth, and Staffin, taken alone or in combination. Additionally, Applicant respectfully submits that dependent claims 2, 3, and 5-9 are allowable as well by virtue of

their dependency, either directly or indirectly, from amended independent claim 1.

Section Five of the Office Action indicated that independent claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Itoh in view of Parth and further in view of Jolly (U.S. Patent Number 5,312,756). With respect to the rejection of independent claim 12, Applicant notes, at the outset, that the Office Action supports the rejection of claim 12, by asserting, among other things, "The furnace being maintained at a temperature in excess of 680°C, a chiller (cooled to 50) coupled to the furnace to receive the oxidized material." Respectfully, these limitations are not set forth in either independent claim 12 or dependent claim 13. Section Five of the Office Action also asserts that, "It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Itoh to include a measure of a quantity of carbon dioxide, which would be indicative of the total carbon of the water. By adding this feature the user would be able to measure the carbon content without any interruptions." Applicant respectfully notes that the detection mechanism of Itoh is simply not capable of providing a continuous carbon dioxide measurement since its nature is to provide the multiple gas specie indications in a temporally spaced fashion. See FIG. 3 of Itoh. Accordingly Applicant respectfully submits that the combination of Jolly with Itoh is improper. Therefore, Applicant respectfully submits that independent claim 12 and dependent claim 13 are allowable over the art of record.

In conclusion, Applicant respectfully submits that the entire application is now in condition for allowance. Reconsideration and favorable action are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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